Mr. Joseph C. Caldwell, Director
Office of Pipeline Safety
Department of Transportation
Washington, D. C. 20590

Dear Mr. Caldwell:

This is in reply to your first letter of May 6, 1074, which constitutes your response to our letter of April 9, 1974, concerning your oral interpretation of 49 CFR 192.577(b)(5), and also in reply to your second letter of May 6, 1974, Docket Number CA-74-2, by which you stayed this Commission's Resolution No.G-1627. The resolution granted the Pacific Gas and Electric Company a waiver of compliance with Section 192.577(b)(5) of 49 C.F.R.

The Commission takes no exception to the staying of its Resolution No.G-1627. However, after analyzing your reasons for objecting to the granting of this waiver, the Commission's engineering staff sees three areas of possible confusion which it believes should be clarified. One of these relates to the isolation required by Section 192.557(b)(5), one is regard to the pressure test referred to in your letters, and one has to do with the proper application of Section 192.619(a), to situations involving uprating under Section 192.577. These are discussed in turn below.

ISOLATION

Here there may be confusion arising from our respective interpretations or definitions of the concept of isolation as used in Section 192.557(b)(5). In granting the waiver, we interpreted that section as requiring complete isolation (e.g., by cutting and capping any and all connections to the segment under test). This would, of course, interrupt service to any customers receiving gas from that segment, and this was the kind of isolation which we were waiving. Under such waiver, both we and the utility company understood that during the test the very regulators which would later be used in operating the rest of the system at lower pressures. If was further understood that the uprating procedure would utilize a lek survey and would be performed in accordance with 192.557(a), and that it would be carried out while the segment was under draft, albeit at a time when the draft was at a maximum.

It now occurs to us that your definition of isolation might be based on the use of regulators to keep the higher pressure in the test segment from the various lines connected to the test segment. Given this definition, we would certainly agree that such isolation cannot and must not be waived. It was not the intent of our resolution to waive this type of isolation.

However, if your objection to our resolution is an objection to the waiving of complete and absolute isolation, then we would have difficulty in understanding such an objection. If, after successfully going through the steps called for in 192.577(c) and 192.553(a), the segment is going to be operated at the same pressure as that achieved during the uprating under those sections, it is certainly going to be operated with regulators on every connecting line operating at lower pressure, and therefore those sa,e regulators could have been used, with perfect safety, during the uprating procedure.

We would very much appreciate being advised of your definition of isolation as it is required by Section 192.577(b)(5).

PRESSURE TEST

You state in your second letter that "a pressure test is required when operating pressure is increased under Section 192.577 to a maximum level permitted by Section 192.619(a)(2)(ii)." We would like to know on which of the following definitions of pressure test the statement just quoted is based:

1. The term "pressure test" can mean a strength test in which a certain test pressure is maintained in a sealed pipe system for some specified time period. No draft of the test, the pipe must not develop any rupture. Failure is indicated by a radical drop in pressure.

2. The term "pressure test" can mean a form of leak test in which a system is pumped up to a certain test pressure, the system is sealed and the pressure source disconnected, and the pressure is observed for some specified time period. Existence of a leak is indicated by a continuing drop in pressure. Location of leak must be determined by observation or survey. No draft of the test medium from the system is allowed.

3. The term "pressure test" can mean a form of leak test in which the system is not sealed. Pressure is increased up to a certain test pressure and maintained at that level. with the pressure source left connected to the system. Both existence and location of leak are determined by observation or survey. Draft of the test medium from the system is allowed to the extent that the pressure source is able to maintain the test pressure.

APPLICATION OF SECTION 192.619(a)

You state in your first letter: "For a steel pipeline operated at 100 psig or more, in uprating under Section 192.577 to a pressure permitted by Section 192.619(a)(2)(ii), a pressure test must be performed under that section."

We are having difficulty in understanding the basis for that statement. It is true that Section 192.619(a)(2)(ii) refers to "the pressure to which the segment was tested after construction" and to "the test pressure". However, the section does not seem to specify that this test pressure must be that pressure which was attained during a pressure or strength test. The section would seem equally to refer to the pressure attained during a leak test. We would appreciate very much your clarifying this point.

In further reference to the application of Section 192.619(a), you state in your Advisory Bulletin No. 74-7, in regard to steel pipelines operating at 100 psig or more and with hoop stresses less than 30% SMYS: "In uprating to a pressure permitted by Section 102.619(a)(2)(ii), a strength test must be performed. The increments prescribed by Section 192.557(c) apply to the increase in pressure between the existing MAOP and the test pressure or the desired MAOP multiplied by the appropriate factor in Section 192.619)a)(2)(ii)." This is apparently a further elucidation of the interpretation you gave of this section in your matters to this Commission.

We find ourselves at variance with this view, in that we have always understood Section 192.577 specifically to exclude from the restrictions of Section 192.619(a) and steel pipeline being uprated to a pressure which would produce hoop stresses less than 30% SMYS.

There are three grounds for this inference. First, it would seem reasonable to expect a safety order not to require a strength test, at 1.4 times desired operating pressure, for uprating pipe having a yield strength which is 3.3 times the hoop stress at the desired operating pressure.

Second, such expectation is completely fulfilled when one reads in Section 192.555(c), for pipe to be operated over 30% SMYS, "After complying with paragraph (b) of this section, an operator may increase the maximum allowable operating pressure of a segment of pipeline constructed before September 12, 1970, to the highest pressure that is permitted under Section 192.619 . . ." (emphasis added), and then one reads in Section 192.557(c), for pipe to be operated under 30% SMYS, "After complying with paragraph (b) of this section, the increase in maximum allowable operating pressure must be made in increments that are equal to 10 psig or 25 percent of the total pressure increase, whichever produces the fewer number of increments." (Emphasis added.) Note that there is, in Section 192.557(c), no reference to Section 192.619, as there is in Section 192.555(c). Instead, Section 192.557(c) calls for incremental pressure increases, and this immediately directs one back to the requirements of Section 192.553(a) which is couched in terms of leak tests and leak surveys, not in terms of strength tests.

And third, this same intent (i.e., of not requiring a strength test for pipelines to be operated at less than 30% SMYS) is evident in the USA Standard Code for Pressure Piping, Gas Transmission and Distribution Piping Systems, USAS B31.8 - 1968, from which Subpart K is derived. Section 845.34 of this Standard applied to high-pressure distribution mains, and to pipelines, operated with hoop stresses less than 30% SMYS. Paragraph (a) of Section 845.34 allowed the MAOP to

be increased to a level not greater than that allowed under Section 845.33, the only applicable portion of which referred to the design pressure of the weakest element of the system. Such increase in MAOP did not require a strength test, but instead called for requirements similar to those of Sections 192.557(b) and (c) in 49 C.F.R.

In further support of our position, it should be pointed out that for certain pipelines, and under your recent interpretation of the applicability of Section 192.619(a), the uprating requirements for old lines (Section 192.557) are more stringent than the test requirements for new lines to be operated under identical conditions (Section 192.507).

In closing, we would like to state that, in our opinion, your recent interpretation of the applicability of Section 192.619(a) to the uprating requirements of Section 192.557 makes an impact on the original intent of these safety orders of such magnitude that it is, in effect, rule making; as such , it should be accorded the usual privileges of public examination, review, and criticism.

This Commission would appreciate receiving your comments on its views as stated above.

Very truly yours,

PUBLIC UTILITIES COMMISSION

William R. Johnson, Secretary